



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/406,798	09/28/1999	HIROSI TUNODA	991094	1948
23850	7590	07/28/2005	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP			MISLEH, JUSTIN P	
1725 K STREET, NW			ART UNIT	
SUITE 1000			PAPER NUMBER	
WASHINGTON, DC 20006			2612	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/406,798

Applicant(s)

TUNODA, HIROSI

Examiner

Justin P. Misleh

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to **Claims 1 – 27** have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1, 3, 4, 7, 9, 10, 13, 15, 16, 19, 21, 22, 24, 25 and 27** are rejected under 35 U.S.C. 102(e) as being anticipated by Fukushima et al.
4. For **Claims 1 and 19**, Fukushima et al. disclose, as shown in figures 1 and 2 and as stated in columns 6 (lines 17 – 25 and 32 – 39), 7 (lines 17 – 19 and 40 – 67), 8 (lines 6 – 13, 18 – 20, 27 – 31, and 37 – 46), and 10 (lines 3 – 53), a method for recording image, comprising the steps of:

storing (S8; see figure 2) image data continuously (while both SW1 and SW2 are depressed; see figure 2) obtained by an image pickup operation in a storage medium (memory part 6; see column 10, lines 23 – 29 and 38 – 48);

Art Unit: 2612

measuring (S11; see figure 2) the amount of the image data (RECCNT; see column 7, lines 17 – 19) stored in the storage medium (6) until reaching a predetermined amount of data (CTH; see column 8, lines 9 – 13; S11 is after the image pickup operation of S7);

and recording (S15; see figure 2) each piece of the image data being stored in the storage medium (6) into a non-volatile recording medium (8), after the measured amount (RECNT) of the image data equals the predetermined amount (CTH),

wherein after starting the step of recording, the step of storing each piece of image data continuously obtained by the image pickup operation in the storage medium (6) and step of recording each piece of the image data being stored in the storage medium into the non-volatile recording medium (8) are performed without pausing, interrupting or reducing the rate of recording the image data (see detailed explanation below).

Fukushima et al. is directed to an image pickup device for continuously capturing images while achieving power savings. To satisfy the objective, Fukushima et al. provides an image pickup device including a buffer memory (6; see figure 1) and a hard drive (8; see figure 1) and method of operating the same in a continuous capture mode (see flowchart of figure 2). An important power saving feature of Fukushima et al. is that the hard drive (8; see figure 1) is only turned on when need and remains off at all other times. However, while the hard drive (8) is turned off, Fukushima et al. continues to capture images and store them in the buffer memory (6). The features of the Fukushima et al. method are best shown in figure 2.

The image pickup device is determined to be in a continuous capture mode when it is determined in Steps S3 and S5 that Switches SW1 and SW2 have respectively been turned on. At this point, Fukushima et al. checks to make sure the buffer memory (6; which holds 8 image frames) is not full by checking to see if the current frame count (RECCNT) is less the maximum buffer frame count (BMAX) in Step S6. So long as the buffer memory (6) does not overflow, continuous image capture continues in Step S8 wherein after image capture and storage in the buffer memory (6), the current frame count (RECCNT) is incremented. The above process is repeated until the current frame count (RECCNT) equals a predetermined minimum amount of frames (CTH), as checked in Step S11. Once it has been determined that the current frame count is between a predetermined amount (CTH) and a maximum amount (BMAX), the hard drive (8) is turned on such that all the images in the buffer memory (8) are transferred, in a burst fashion, thereto, wherein after transfer the hard drive (8) is turned off again.

The Examiner acknowledges the Fukushima et al. does not teach constantly recording the image data from the buffer memory (6) to hard drive (8), rather teaches continuously capturing and storing images and recording bursts of image data from the buffer memory (6) to hard drive (8) after certain requirements have been met. However, the claim language is written broadly enough such that the teachings of Fukushima et al. meet the requirements therein.

For instance, the claim language requires wherein after starting the step of recording (Once Step S11 is affirmed the recording commences in Step S15; RECCNT equals predetermined amount), the step of storing each piece of image data continuously obtained by the image pickup operation in the storage medium (6; in Step S8) and step of recording each piece of the image data being stored in the storage medium into the non-volatile recording medium (8; in Step S15) are performed without pausing, interrupting or reducing the rate of recording the image data (WHILE the hard drive 8 is turned on and burst recording has commenced; the burst recording is NEVER paused, interrupted, or rate-reduced until the image frames in the buffer memory 6 have been transferred to the hard drive.).

5. For **Claims 7 and 22**, Fukushima et al. disclose, as shown in figures 1 and 2 and as stated in columns 6 (lines 17 – 25 and 32 – 39), 7 (lines 17 – 19 and 40 – 67), 8 (lines 6 – 13, 18 – 20, 27 – 31, and 37 – 46), and 10 (lines 3 – 53), an image pickup apparatus (see figure 1) comprising:

an optical lens (1);

an image pickup device (3) for taking image through the optical lens (1);

storage instructions device (10) for storing (S8; see figure 2) image data continuously (while both SW1 and SW2 are depressed; see figure 2) obtained by an image pickup operation (S7; see figure 2) of the image pickup device (3) in a storage medium (6);

record instructing device (10) for allowing a record (S15; see figure 2) the image data from the storage medium (6) to a non-volatile recording medium (8);

Art Unit: 2612

measuring device (14) for measuring of the amount of image data (RECCNT; see column 7, lines 17 – 19) stored in the storage medium (6) until reaching a predetermined amount of data (CTH; see column 8, lines 9 – 13; S11 is after the image pickup operation of S7); and

parallel processing instruction device (14), for instructing the record instructing device (14) to record into a non-volatile recording medium (8) each piece of the image data being stored in the storage medium (6) during the storing operation (Step S8) after the measured amount (RECNT) of the image data equals the predetermined amount (CTH),

wherein after starting the step of recording, the step of storing each piece of image data continuously obtained by the image pickup operation in the storage medium (6) and step of recording each piece of the image data being stored in the storage medium into the non-volatile recording medium (8) are performed without pausing, interrupting or reducing the rate of recording the image data (see detailed explanation below).

Fukushima et al. is directed to an image pickup device for continuously capturing images while achieving power savings. To satisfy the objective, Fukushima et al. provides an image pickup device including a buffer memory (6; see figure 1) and a hard drive (8; see figure 1) and method of operating the same in a continuous capture mode (see flowchart of figure 2). An important power saving feature of Fukushima et al. is that the hard drive (8; see figure 1) is only turned on when need and remains off at all other times. However, while the hard drive (8) is turned off, Fukushima et al. continues to capture images and store them in the buffer memory (6). The features of the Fukushima et al. method are best shown in figure 2.

The image pickup device is determined to be in a continuous capture mode when it is determined in Steps S3 and S5 that Switches SW1 and SW2 have respectively been turned on. At this point, Fukushima et al. checks to make sure the buffer memory (6; which holds 8 image frames) is not full by checking to see if the current frame count (RECCNT) is less the maximum buffer frame count (BMAX) in Step S6. So long as the buffer memory (6) does not overflow, continuous image capture continues in Step S8 wherein after image capture and storage in the buffer memory (6), the current frame count (RECCNT) is incremented. The above process is repeated until the current frame count (RECCNT) equals a predetermined minimum amount of frames (CTH), as checked in Step S11. Once it has been determined that the current frame count is between a predetermined amount (CTH) and a maximum amount (BMAX), the hard drive (8) is turned on such that all the images in the buffer memory (8) are transferred, in a burst fashion, thereto, wherein after transfer the hard drive (8) is turned off again.

The Examiner acknowledges the Fukushima et al. does not teach constantly recording the image data from the buffer memory (6) to hard drive (8), rather teaches continuously capturing and storing images and recording bursts of image data from the buffer memory (6) to hard drive (8) after certain requirements have been met. However, the claim language is written broadly enough such that the teachings of Fukushima et al. meet the requirements therein.

For instance, the claim language requires wherein after starting the step of recording (Once Step S11 is affirmed the recording commences in Step S15; RECCNT equals predetermined amount), the step of storing each piece of image data continuously obtained by the image pickup operation in the storage medium (6; in Step S8) and step of recording each piece of the image data being stored in the storage medium into the non-volatile recording medium (8; in Step S15) are performed without pausing, interrupting or reducing the rate of recording the image data (WHILE the hard drive 8 is turned on and burst recording has commenced; the burst recording is NEVER paused, interrupted, or rate-reduced until the image frames in the buffer memory 6 have been transferred to the hard drive.).

6. For **Claims 13 and 25**, Fukushima et al. disclose, as shown in figures 1 and 2 and as stated in columns 6 (lines 17 – 25 and 32 – 39), 7 (lines 17 – 19 and 40 – 67), 8 (lines 6 – 13, 18 – 20, 27 – 31, and 37 – 46), and 10 (lines 3 – 53), an image pickup apparatus (see figure 1) where image data continuously (see column 10, lines 23 – 29 and 38 – 48) obtained by an image pickup operation (S7; see figure 2) are stored (S8; see figure 2) in a storage medium (6) and the image data being stored in the storage medium (6) are recorded (S15; see figure 2) into a non-volatile recording medium (8), the image pickup apparatus (see figure 1) comprising:

an optical lens (1);

an image pickup device (3) for taking image through the optical lens (1);

a controller (14) which is capable of performing the following operations;

Art Unit: 2612

i) storing (S8) the image data (while both SW1 and SW2 are depressed; see figure 2) the storage medium (by means of memory controller 10);

ii) measuring (S11) the amount of the image data (RECCNT; see column 7, lines 17 – 19) stored in the storage medium (6) until reaching a predetermined amount of data (CTH; S11 is after the image pickup operation of S7);

iii) recording (S15) each piece of the image data being continuously stored in the storage medium (6) into the recording medium (8) after the measured amount (RECCNT) of the image data equals the predetermined amount (CTH),

wherein after starting the step of recording, the step of storing each piece of image data continuously obtained by the image pickup operation in the storage medium (6) and step of recording each piece of the image data being stored in the storage medium into the non-volatile recording medium (8) are performed without pausing, interrupting or reducing the rate of recording the image data (see detailed explanation below).

Fukushima et al. is directed to an image pickup device for continuously capturing images while achieving power savings. To satisfy the objective, Fukushima et al. provides an image pickup device including a buffer memory (6; see figure 1) and a hard drive (8; see figure 1) and method of operating the same in a continuous capture mode (see flowchart of figure 2). An important power saving feature of Fukushima et al. is that the hard drive (8; see figure 1) is only turned on when need and remains off at all other times. However, while the hard drive (8) is turned off, Fukushima et al. continues to

Art Unit: 2612

capture images and store them in the buffer memory (6). The features of the Fukushima et al. method are best shown in figure 2.

The image pickup device is determined to be in a continuous capture mode when it is determined in Steps S3 and S5 that Switches SW1 and SW2 have respectively been turned on. At this point, Fukushima et al. checks to make sure the buffer memory (6; which holds 8 image frames) is not full by checking to see if the current frame count (RECCNT) is less the maximum buffer frame count (BMAX) in Step S6. So long as the buffer memory (6) does not overflow, continuous image capture continues in Step S8 wherein after image capture and storage in the buffer memory (6), the current frame count (RECCNT) is incremented. The above process is repeated until the current frame count (RECCNT) equals a predetermined minimum amount of frames (CTH), as checked in Step S11. Once it has been determined that the current frame count is between a predetermined amount (CTH) and a maximum amount (BMAX), the hard drive (8) is turned on such that all the images in the buffer memory (8) are transferred, in a burst fashion, thereto, wherein after transfer the hard drive (8) is turned off again.

The Examiner acknowledges the Fukushima et al. does not teach constantly recording the image data from the buffer memory (6) to hard drive (8), rather teaches continuously capturing and storing images and recording bursts of image data from the buffer memory (6) to hard drive (8) after certain requirements have been met. However, the claim language is written broadly

Art Unit: 2612

enough such that the teachings of Fukushima et al. meet the requirements therein.

For instance, the claim language requires wherein after starting the step of recording (Once Step S11 is affirmed the recording commences in Step S15; RECCNT equals predetermined amount), the step of storing each piece of image data continuously obtained by the image pickup operation in the storage medium (6; in Step S8) and step of recording each piece of the image data being stored in the storage medium into the non-volatile recording medium (8; in Step S15) are performed without pausing, interrupting or reducing the rate of recording the image data (WHILE the hard drive 8 is turned on and burst recording has commenced; the burst recording is NEVER paused, interrupted, or rate-reduced until the image frames in the buffer memory 6 have been transferred to the hard drive.).

7. As for **Claims 3, 9, 15, 21, 24, and 27**, in the rejection of the parent claims, the Examiner mainly relied upon the generic and very basic operation of Fukushima et al., as shown in figures 1 and 2 and their associated descriptions. However, the image pickup apparatus of Fukushima et al. incorporates several features not clearly shown in figures 1 and 2. The Examiner directs the Applicant to figure 3 and columns 10 (lines 58 – 67) and 11 (lines 1 – 26).

Fukushima et al. disclose converting an image signal obtained by the image pickup operation (S7) to digital image data in units of image frames (S/H – 4 and A/D – 5/1018); and compressing (compression circuit – 1020) the image data the image data before storing in the storage medium (6/1024).

Art Unit: 2612

8. As for **Claims 4, 10, and 16**, since Fukushima et al. disclose a continuous shot mode, it is inherent to Fukushima et al. that image data are compressed according to a motion picture compression form.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. **Claims 2, 5, 6, 8, 11, 12, 14, 17, 18, 20, 23, and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al. in view of Anderson et al.

11. As for **Claims 2, 8, 14, 20, 23, and 26**, Fukushima et al. discloses a storage medium (6) for storing image data continuously obtained by an image pickup operation (S7) and a non-volatile recording medium (8) for recording the image data being stored in the storage medium (6). However, Fukushima et al. do not disclose storing in the storage medium (6) storage information including a start address and data length of the image data being stored in the storage medium (6) and recording the image data being stored in the storage medium (6) to the recording medium based on the storage information (8).

Anderson et al. also disclose, as shown in figures 2 – 4 and as stated in columns 3 (lines 54 – 64), 4 (lines 1 – 12, 21 – 25, and 41 – 67), and 5 (lines 1 – 48), a storage medium (RAM 60) and a non-volatile recording medium (Flash Memory 64) for storing image data. Anderson et al. disclose storing in the storage medium (60) storage information (in Data Cells 76) including a

Art Unit: 2612

start address and data length (through the use of “pointers”) of the image data being stored in the storage medium and recording the image data being stored in the storage medium to the recording medium based on the storage information (processing requests and “Compressed Image Data in Flash Memory” flags). As stated in column 2 (lines 18 – 29), at the time the invention was made, one with ordinary skill in the art would have been motivated to have stored storage information in the storage medium, including a start address and data length of the image data being stored in the storage medium, and recording the image data being stored in the storage medium to the recording medium based on the storage information as taught by Anderson et al. in the storage medium of Fukushima et al. as a means to maintain the storage medium in a condition to receive new image data from the imaging device. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have stored storage information in the storage medium as taught by Anderson et al. in the storage medium of Fukushima et al.

12. As for **Claims 5, 11, and 17**, in the rejection of the parent claims, the Examiner mainly relied upon the generic and very basic operation of Fukushima et al., as shown in figures 1 and 2 and their associated descriptions. However, the image pickup apparatus of Fukushima et al. incorporates several features not clearly shown in figures 1 and 2. The Examiner directs the Applicant to figure 3 and columns 10 (lines 58 – 67) and 11 (lines 1 – 26).

Fukushima et al. disclose converting an image signal obtained by the image pickup operation (S7) to digital image data in units of image frames (S/H – 4 and A/D – 5/1018); and compressing (compression circuit – 1020) the image data the image data before storing in the storage medium (6/1024).

Art Unit: 2612

13. As for **Claims 6, 12, and 18**, since Fukushima et al. discloses a continuous shot mode, it is inherent to Fukushima et al. that image data are compressed according to a motion picture compression form.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

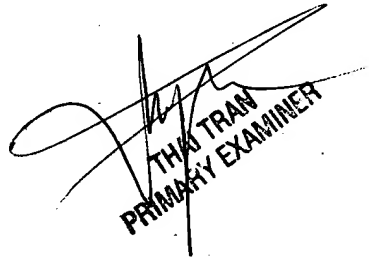
If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, ^{Thai Tran} ~~Wendy R Garber~~ can be reached on 571.272.7382 ⁷³⁸² ~~7308~~. The fax phone number for the organization where this application or proceeding is assigned is 571.273.3000.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM

July 25, 2005


THAI TRAN
PRIMARY EXAMINER